

CLAIMS

1. A method for inspecting the integrity of the insulation of a wire or cable including the steps of; passing a current through said wire or cable, applying a fluid having electrolytic properties to said wire or cable, and using a thermal imaging system to detect and display the intensity of heat emanating from said wire or cable.
2. A method for inspecting the integrity of the insulation of a wire or cable as claimed in claim 1 wherein the thermal imaging system comprises an infra-red detector and a display monitor.
3. A method for inspecting the integrity of the insulation of a wire or cable as claimed in claim 1 ~~or claim 2~~ wherein recording means are provided for recording images displayed by the thermal imaging system.
4. A method for inspecting the integrity of the insulation of a wire or cable as claimed in claim 2 wherein the infra-red detector is a thermal imaging camera.
5. A method for inspecting the integrity of the insulation of a wire or cable as claimed in claim 2 ~~or claim 4~~ wherein the infra-red detector is hand held.
6. A method for inspecting the integrity of the insulation of a wire or cable as claimed in claim 2 ~~or claim 4~~ wherein the infra-red detector is stand mounted.
7. A method for inspecting the integrity of the insulation of a wire or cable as claimed in claim 2 ~~or as claimed in any one of claims 4 to 6~~ wherein said infra-red detector

8. A method for inspecting the integrity of the insulation of a wire or cable as claimed in claim 3 wherein said recording means is adapted to allow displayed images to be stored on computer disks.
9. A method for inspecting the integrity of the insulation of a wire or cable as claimed in claim 3 wherein said recording means is adapted to allow images to be stored on video tape.
10. A method for inspecting the integrity of the insulation of a wire or cable as claimed in claim 3 wherein said images are displayed as calibrated spacial thermal images.
11. A method for inspecting the integrity of the insulation of a wire or cable as claimed in claim 3 wherein a false colour scale is used to represent various temperatures on displayed images.
12. A method for inspecting the integrity of the insulation of a wire or cable as claimed in ~~any preceding claim~~ wherein said fluid is capable of conducting a leakage current.
13. A method for inspecting the integrity of the insulation of a wire or cable as claimed in claim 12 wherein leakage current measuring means are provided to measure said leakage current.

14. A method for inspecting the integrity of the insulation of a wire or cable as claimed in claim 13, wherein said leakage current measuring means comprises an ammeter.
15. A method for inspecting the integrity of the insulation of a wire or cable as claimed in claim 13, whereas said leakage current measuring means comprises an oscilloscope.
16. A method for inspecting the integrity of the insulation of a wire or cable as claimed in ~~any preceding claim~~ wherein said fluid is an aqueous saline solution.
17. A method for inspecting the integrity of the insulation of a wire or cable as claimed in ~~any preceding claim~~ wherein said fluid comprises sodium chloride in the range 1 to 3% by mass.
18. A method for inspecting the integrity of the insulation of a wire or cable as claimed in ~~any preceding claim~~ wherein said fluid comprises 2% sodium chloride by mass.
19. A method of inspecting the integrity of the insulation of a wire or cable as claimed in <sup>Claim 1</sup> ~~any one of claims 1 to 15~~ wherein said fluid comprises ammonium chloride in the range 1 to 3% by mass.
20. A method for inspecting the integrity of the insulation of a wire or cable as claimed in ~~any preceding claim~~ wherein said fluid is dripped on to the wire or cable.
21. A method for inspecting the integrity of the insulation of a wire or cable as claimed in <sup>Claim 1</sup> ~~any one of claims 1 to 19~~ wherein said fluid is sprayed on to the wire or cable.

22. A method for inspecting the integrity of the insulation of a wire or cable as claimed in ~~any preceding claim~~<sup>1</sup> wherein said fluid includes a wetting agent, said wetting agent being capable of reducing the surface tension of the fluid and thereby preventing large droplets from forming.
23. A method for inspecting the integrity of the insulation of a wire or cable as claimed in ~~any preceding claim~~<sup>1</sup> wherein said fluid is non-corrosive and is of a type that causes no substantial degradation of elastomeric polymer insulation around any wires or cables to which it is applied.
24. A method for inspecting the integrity of the insulation of a wire or cable as claimed in ~~any preceding claim~~<sup>1</sup> wherein said thermal imaging system is used to detect and display the intensity of heat emanating from the wire or cable prior to the application of said fluid, to provide datum values of heat emission.
25. A method for inspecting the integrity of the insulation of a wire or cable as claimed in claim 24 wherein the amount of fluid used is dependent upon said datum values.
26. A method for inspecting the integrity of the insulation of a wire or cable substantially as hereinbefore described and with reference to Figures 1a and 1b or Figure 2 or Figure 3 of the accompanying drawings.